

Claims

- [c1] A method of controlling an automotive vehicle comprising:
 - generating a reverse direction signal corresponding to a reverse direction of the vehicle; and
 - applying brake-steer in response to the reverse direction signal.
- [c2] A method as recited in claim 1 wherein generating a reverse direction signal comprises generating a reverse direction from a shift lever.
- [c3] A method as recited in claim 1 wherein generating a reverse direction signal comprises generating a reverse direction from a push button.
- [c4] A method as recited in claim 1 wherein generating a reverse direction signal comprises generating a reverse direction from a transmission controller.
- [c5] A method as recited in claim 1 wherein generating a reverse direction signal comprises generating a reverse direction from a wheel speed sensor.
- [c6] A method as recited in claim 1 wherein applying brake-

steer comprises applying at least one brake at a first wheel to reduce a vehicle turning radius.

- [c7] A method as recited in claim 1 wherein applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel.
- [c8] A method as recited in claim 1 wherein applying brake-steer comprises applying brake-steer to a front wheel.
- [c9] A method as recited in claim 1 wherein applying brake-steer comprise proportioning brake-steer between a front wheel and a rear wheel.
- [c10] A method as recited in claim 9 wherein proportioning comprises proportioning between the front and rear wheel in response to a transfer case mode.
- [c11] A method as recited in claim 1 further comprising determining a steering wheel angle and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and steering wheel angle.
- [c12] A method as recited in claim 1 further comprising determining a yaw rate and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and said yaw rate.
- [c13] A method as recited in claim 1 further comprising deter-

mining a steering wheel torque and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and steering wheel torque.

- [c14] A method as recited in claim 1 further comprising determining a steering wheel angle and a vehicle velocity and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and steering wheel angle and vehicle velocity.
- [c15] A control system for a vehicle comprising:
means to generate a reverse direction signal corresponding to a reverse direction of the vehicle; and
a controller programmed to apply brake-steer in response to the reverse direction signal.
- [c16] A control system as recited in claim 15 wherein said means comprises a shift lever.
- [c17] A control system as recited in claim 15 wherein said means comprises a push button.
- [c18] A control system as recited in claim 15 wherein said means comprises a transmission controller.
- [c19] A control system as recited in claim 15 wherein said means comprises a wheel speed sensor.
- [c20] A system as recited in claim 15 wherein said controller is

programmed to apply brake-steer by applying a first brake and a second brake to reduce the turning radius of the vehicle.

- [c21] A system as recited in claim 15 wherein said controller is programmed to apply brake-steer by applying at least one brake at a first wheel to reduce a vehicle turning radius.
- [c22] A system as recited in claim 15 wherein said controller is programmed to apply brake-steer by applying an increased drive torque to a second wheel relative to the first wheel.
- [c23] A control system as recited in claim 15 further comprising a steering wheel angle sensor generating a steering wheel angle signal, said controller programmed to apply brake-steer in response to the reverse directional signal and the steering wheel angle signal.
- [c24] A control system as recited in claim 15 further comprising a yaw rate sensor generating a yaw rate signal, said controller programmed to apply brake-steer in response to the reverse direction signal and yaw rate signal.
- [c25] A control system as recited in claim 15 further comprising a steering wheel torque sensor generating a steering torque signal, said controller programmed to apply

brake-steer in response to the reverse direction signal and steering torque signal.

- [c26] A control system as recited in claim 15 further comprising a steering wheel angle sensor generating a steering wheel angle signal and a vehicle velocity sensor generating a vehicle velocity signal, said controller programmed to apply brake-steer in response to the reverse direction signal and steering wheel angle and vehicle velocity signal.
- [c27] A vehicle comprising:
 - a shift lever having a reverse position generating a reverse position signal; and
 - a controller coupled to the shift lever, said controller applying brake-steer in response to the reverse position signal.
- [c28] A vehicle as recited in claim 27 further comprising a transfer case having a transfer case mode, said controller changing the transfer case mode based on brake-steer.
- [c29] A vehicle as recited in claim 27 wherein said controller is programmed to apply brake-steer by applying a first brake and a second brake to reduce the turning radius of the vehicle.
- [c30] A vehicle as recited in claim 27 wherein said controller is

programmed to apply brake-steer by applying at least one brake at a first wheel to reduce a vehicle turning radius.

- [c31] A vehicle as recited in claim 27 wherein said controller is programmed to apply brake-steer by applying an increased drive torque to a second wheel relative to the first wheel.
- [c32] A vehicle as recited in claim 27 further comprising a steering wheel angle sensor generating a steering wheel angle signal, said controller programmed to apply brake-steer in response to the reverse directional signal and the steering wheel angle signal.
- [c33] A vehicle as recited in claim 27 further comprising a yaw rate sensor generating a yaw rate signal, said controller programmed to apply brake-steer in response to the reverse direction signal and yaw rate signal.
- [c34] A vehicle as recited in claim 27 further comprising a steering wheel torque sensor generating a steering torque signal, said controller programmed to apply brake-steer in response to the reverse direction signal and steering torque signal.
- [c35] A vehicle as recited in claim 27 further comprising a steering wheel angle sensor generating a steering wheel

angle signal and a vehicle velocity sensor generating a vehicle velocity signal, said controller programmed to apply brake-steer in response to the reverse direction signal and steering wheel angle and vehicle velocity signal.